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NOTES ON LEGUMINOSAE. II.

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Summary

Abarema sapindoides (Cunn. ex Sweet) Kosterm. is an illegitimate name. Its correct name is *Pithecellobium pruinosum* Cunn. ex Benth. The species of *Pithecellobium* that occur in Queensland are enumerated.

The number of ovules does not clearly distinguish *Atylosia* Wight & Arn. from *Rhynchosia* Lour. The two genera are redefined in terms of presence or absence of a rim-aril and of a septate pod. *Nomismia* Wight & Arn. is recognised to include species not referrable to the other two genera. The combination *Nomismia rhomboidea* based on *Rhynchosia rhomboidea* F. Muell. ex Benth. is made.

Mirbelia viminalis (Cunn. ex Benth.) C.A. Gardner is recorded from Queensland.

MIMOSOIDEAE

PITHECELLOBIUM MART.

In recent years many authors (for example, Beadle *et al.* (1972), Beadle (1976)) have followed Kostermans (1954) in referring Australian species previously referred to *Pithecellobium* to *Abarema* Pittier. While examining these species for the forthcoming "Handbook to the Flora of South-eastern Queensland" I found that there were unsolved taxonomic and nomenclatural problems, particularly in *Pithecellobium pruinosum.*

Abarema sapindoides (Cunn. ex Sweet) Kosterm., a name in general use, is based on *Acacia sapindoides* Cunn. ex Sweet which is a name without description and therefore invalid. The first validly published name for the species seems to be *Pithecellobium pruinosum* Benth., which has never been correctly transferred to *Abarema.* In the light of recent taxonomic work such a transfer is not now warranted.

Nielsen (1979) critically examined generic limits of the Asian Ingeae.The genera he recognized are broader than those recognized by Kostermans (op. cit.) but narrower than those of Bentham (1875). He stated that he "followed an intermediate course in referring the Asian-Malesian Ingeae with opposite leaflets, uniform flowers, seeds without aril and pleurogram to the genus *Archidendron* whereas the *Ingeae* with opposite leaflets, flowers in heads, heteromorphic flowers . . . ., seeds without aril but with pleurogram are referred to the genus *Albizia* ". As *Abarema trapezifolia* (Vahl) Pittier, the lectotype of *Abarema* (Cowan 1959), has dimorphic flowers, Nielsen considered that Old World species of *Pithecellobium* referred to *Abarema* by Kostermans had been wrongly placed. Most of them will have to be transferred to *Archidendron.*

Pithecellobium pruinosum Benth. has however some unusual features. Its leaflets are alternately arranged along the rhachilla and at the base of each there is a small but conspicuous gland. Its seeds have a pleurogram. The latter character would exclude it from *Archidendron* as Nielsen defined it but he (in litt. 1979) stated: *"Pithecellobium pruinosum* is causing . . . some trouble . . . . . But it will probably go to *Archidendron".*

It would be inappropriate to describe new taxa or to make new combinations until Nielsen's work is finished. The following species occurring in south-eastern Queensland are therefore retained in *Pithecellobium.*

Pithecellobium grandiflorum Sol. ex Benth., Fl. Aust. 2:424 (1864).
P. tozeri F. Muell., Fragm. Phytog. Aust. 5:10 (1865).
Albizia tozeri (F. Muell.) F. Muell., Trimen J. Bot. 10:10 (1872).
Abarema grandiflora (Sol. ex Benth.) Kosterm., Organiz. Scient. Res. Indonesia Bull. 20:34 (1954).

Pithecellobium hendersonii F. Muell., Fragm. Phytog. Aust. 5:191 (1866).
Albizia hendersonii (F. Muell.) F. Muell., Trimen J. Bot. 10:10 (1872).
Abarema hendersonii (F. Muell.) Kosterm., Organiz. Scient. Res. Indonesia Bull. 20:34 (1954).

Pithecellobium lovelliae F.M. Bailey, Qd Dept. Ag. Bot. Bull. 8:74 (1893).
Abarema lovelliae (F.M. Bailey) Kosterm., Organiz. Scient. Res. Indonesia Bull. 20:35 (1954).

Pithecellobium muelleranum (Maiden & R.T. Baker) Maiden & Betche, Census N.S.W. Plants 89 (1916).
Albizia muellerana Maiden & R.T. Baker, Proc. Linn. Soc. N.S.W. 10 (2nd ser.):585 (1896).
Abarema muellerana (Maiden & R.T. Baker) Kosterm., Adansonia 6:369 (1966).

Maiden & Baker accepted Mueller's broad concept of *Albizia* and described *P. muelleranum* as an *Albizia*. Maiden & Betche appear to have been the first to refer the species to *Pithecellobium*.

Pithecellobium pruinosum Cunn. ex Benth., London J. Bot. 3:211 (1844).
Acacia sapindoides Cunn. ex Sweet, Hort. Brit. ed 3. 198 (1839), *nomen.*
Pithecellobium sapindoides Domin, Biblioth. Bot. 89:276 (1926).
Abarema sapindoides Kosterm., Organiz. Scient. Res. Indonesia Bull. 20:38 (1954).
Abarema pruinosa K.A.W. Williams, Native Plants of Queensland (1979) *nom. invalidum.*

Williams who was aware of the problems associated with *P. pruinosum* was advised to use the name *Abarema pruinosa* in anticipation of the combination being made. Nielsen's work has made the combination unnecessary, but his results were published too late for Williams to alter the name.

PAPILIONOIDEAE

ATYLOSIA WIGHT & ARN.

While revising species of *Atylosia* in Australia (Reynolds & Pedley 1980) it became evident that limits of the genera of the tribe Cajaneae (Hutchinson 1964) were not well defined. The problem is not restricted to Australia, but a solution applicable to Australia taxa only was sought. Its application to a wider geographic area will have to be tested by workers on the Asian and African floras.

Atylosia, a genus of about 35 species (Hutchinson *op. cit.*) is usually distinguished in keys from the more widely ranging and larger genus *Rhynchosia* Lour. (*ca* 200 species, Gillett *et al.* 1971) by the number of ovules: *Rhynchosia* 2 (rarely 1), *Atylosia* 4 or more (Bentham & Hooker 1865, Merrill 1910, Hutchinson *op. cit.*, Gillett *et al., op. cit.*). Hutchinson placed *Atylosia* under "ovules 4 or more" in his key but he described it as having 3-many ovules. Bentham (1864) recognised the close affinity of the two genera as can be seen by his notes to *Atylosia marmorata* Benth., *A. scarabaeoides* (L.) Benth. and *Rhynchosia acutifolia* F. Muell. ex Benth.

Though there is difficulty in separating some Australian species of *Rhynchosia* from species of *Atylosia, R. volubilis* Lour. (the type species) and *A. trinervia* (DC.)

Gamble (*A. candollei* Wight & Arn., the lectotype species) do appear to belong to different genera. The number of ovules is an unsatisfactory character for distinguishing the genera, but attributes of pods and seeds seem to provide more satisfactory distinctions. If characters of pods and seeds are used to distinguish the genera then the taxonomy of Wight and Arnott proves to be reasonably acceptable and the names of only a few species will be affected.

The genera can be redefined as follows:

Rhynchosia Lour. Type species: *R. volubilis* Lour.

Ovules (1—)2; pods (1—)2-seeded without a partition between the seeds, valves without distinct transverse reticulate veins; seeds without a distinct fleshy rim aril.

Atylosia Wight & Arn. Lectotype species: *A. trinervia* (DC.) Gamble

Ovules 2—many; pods 2—many-seeded with distinct partitions between the seeds, and valves with transverse or oblique lines, but not reticulate veins; seeds with a fleshy rim aril.

When *Atylosia* is defined in this way then *Rhynchosia* subgenus *Phyllomata* Wight & Arn. and *Rhynchosia* subgenus *Ptychocentrum* Wight & Arn., both with only a few species, must be referred to *Atylosia.*

A few species have seeds with thick rim-arils but their pods do not have septa between the seeds. In characters of seeds and pods they are somewhat intermediate between *Atylosia* and *Rhynchosia.* Their pods, unlike those of *Atylosia* and *Rhynchosia,* are strongly transversely veined and they may be referred to *Nomismia* Wight & Arn.

Nomismia Wight & Arn. Lectotype species: *N. nummularia* Wight & Arn.

Ovules 1—2; pods compressed, ± orbicular, 1—2-seeded strongly transversely veined; seeds with a large fleshy rim aril.

Though the pods of *Atylosia platycarpa* has pods described as transversely reticulate they are distinctly depressed between the seeds and it and other species of *Atylosia* section *Rhynchosioides* should remain in *Atylosia.* The position of other species is less certain. *Rhynchosia monophylla* Schlecht. which was referred to *Rhynchosia* section *Nomismia* by Gillett *et al.* has a distinct rim aril but its pod is like that of *Rhynchosia* rather than either *Nomismia* or *Atylosia.*

The redefinition of *Atylosia* and *Rhynchosia* results in the transfer of *Rhynchosia acutifolia* F. Muell. ex Benth. to *Atylosia* (*see* Reynolds & Pedley 1981) and *R. rhomboidea* F. Muell. ex Benth. to *Nomismia.*

Nomismia rhomboidea (F. Muell. ex Benth.) Pedley, comb. nov. Based on *Rhynchosia rhomboidea* F. Muell. ex Benth., Fl. Aust. 2:265 (1864). **Type:** Victoria River, Oct 1855, *Mueller* (K, holo).

Western Australia. 22 miles [35 km] N of "Nicholson" Stn, Jul 1949, *Perry* 2380 (K); Ord River Dam, 16°07'S, 128°44'E, Jun 1974, *Latz* 5443. **Northern Territory.** 16 miles [26 km] WSW of "Victoria River Downs" Stn, Jun 1949, *Perry* 2103 (BRI, K).

Rhynchosia rostrata Benth. has the aspect of *Atylosia cinerea* but I have seen only the type (K) which lacks pods. Its position is therefore doubtful.

The solution to the problem of generic limits presented here is acceptable when Australian species are considered by may not be applicable throughout the ranges of *Atylosia, Rhynchosia* and *Nomismia. Atylosia, Cajanus, Dunbaria* and *Rhynchosia* are closely interrelated and further studies in the tribe are called for. For this reason I have not made any formal transfers of non-Australian taxa.

MIRBELIA SMITH

Mirbelia viminalis (Cunn. ex Benth.) C.A. Gardner, Enum. Plant. Aust. Occident. 57 (1930). Based on *Jacksonia viminalis* Cunn. ex Benth., Ann. Wien. Mus. 2:75 (1839).

Oxycladium semiseptatum F. Muell., J. Bot. & Kew Gard. Miscell. 9:20 (1857). *Mirbelia oxycladum* F. Muell., Fragm. Phytog. Aust. 4:12 (1863); Benth., Fl. Aust. 2:38 (1864); F.M. Bailey, Qd Flora 2:340 (1900) nom. illeg. Based on *Oxycladium semiseptatum.*

BURKE DISTRICT: "Barkly Downs", May 1975, *Glasgow* (JCT). MITCHELL DISTRICT: Burra Range, between Pentland and Torrens Creek, Jun 1971, *Birch* (JCT). SOUTH KENNEDY DISTRICT: "Taemas" Stn, S. of Cape River, 21°14'S 146°24'E, Sep 1977, *Williams* 77202; "Mirtna" Stn, S. of Cape River Sep 1977, *Jackes* (JCT).

Bailey's inclusion of *Mirbelia viminalis* (as *M. oxyclada*) in "The Queensland Flora" was justified though it has only recently been collected in Queensland, a considerable distance from its nearest known collecting locality in the Northern Territory. It is easily distinguished from all other Queensland species of *Mirbelia* as it is the only leafless representative of the genus found in the state.

REFERENCES

BEADLE, N.C.W. (1976). Students Flora of North Eastern New South Wales. Part III. Armidale, N.S.W.: University of New England.

BEADLE, N.C.W., O.D. EVANS, & R.C. CAROLIN (1972). Flora of the Sydney Region. Sydney: A.H. & A.W. Reed.

BENTHAM, G. (1864). Flora Australiensis. vol. 2. London: Reeve & Co.

BENTHAM, G. (1875). Revision of the suborder Mimoseae. *Trans. Linn. Soc. London* 30:335-664.

BENTHAM, G. & J.D. HOOKER (1867) Genera Plantarum Vol. 1. London: Reeve & Co., Williams & Norgate.

COWAN, R.S. (1959). Leguminosae of the Western Hemisphere. *Taxon* 8:58-60.

GILLETT, J.B., R.M. POLHILL & B. VERDCOURT (1971). Leguminosae subfamily Papilionoideae *in* E. Milne-Redhead & R.M. Polhill (ed.): Flora of Tropical East Africa. London: Crown Agents for Overseas Governments.

KOSTERMANS, A.J.G.H. (1954). A monograph of the Asiatic, Malaysian, Australian and Pacific species of Mimosaceae, formerly included in *Pithecolobium* Mart. Organiz. Scient. Res. Indonesia Bull. 20.

MERRILL, E.D. (1910). An enumeration of Philippine Leguminosae. *Philip. J. Sci.* 5:1-136.

NIELSEN, P. (1979). Notes on he genera *Archidendron* F. v Mueller and *Pithecellobium* Martius in mainland S.E. Asia. *Adansonia* 19:3-37.

REYNOLDS, SALLY T. & L. PEDLEY (1981). A revision of *Atylosia* Wight & Arn. (Leguminosae) in Australia. *Austrobaileya* 1 (4): 420-428.

VERDCOURT, B. (1977). New taxa of Leguminosae from New Guinea. *Kew Bulletin* 32:225-251.